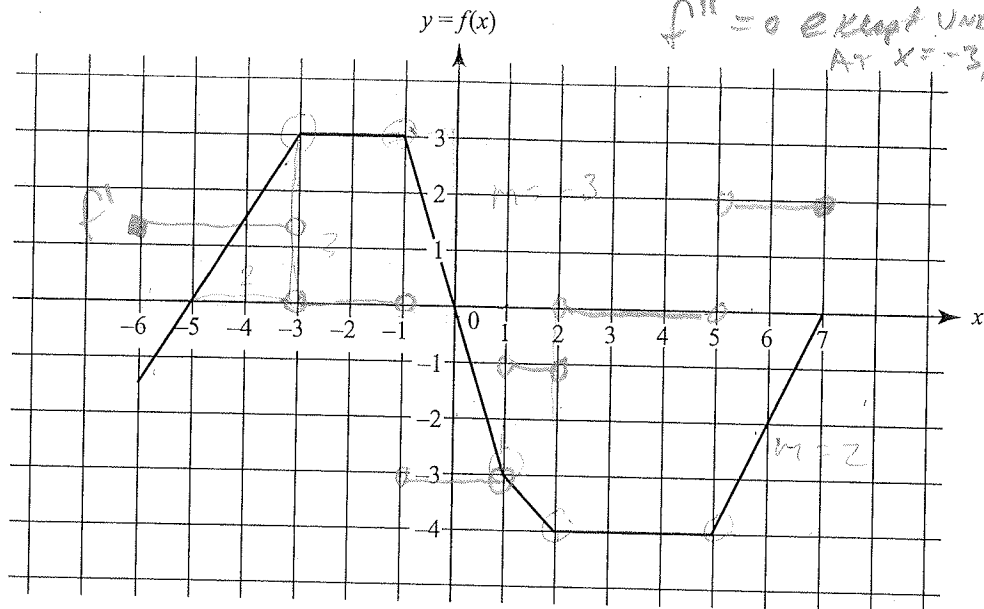


NAME: KEY

Period: \_\_\_\_\_

DERIVATIVE & CONTINUITY

Questions 95-99 are based on the following graph of  $f(x)$ , sketched on  $-6 \leq x \leq 7$ . Assume the horizontal and vertical grid lines are equally spaced at unit intervals.



$f'(x_0)$  for  
s used to  
 $f'(0)$  for  
 $f(x) = |x|$

A  
E  
E  
D

(0,1) and

95. On the interval  $1 < x < 2$ ,  $f(x)$  equals  
 (A)  $-x - 2$      (B)  $-x - 3$      (C)  $-x - 4$      (D)  $-x + 2$      (E)  $x - 2$
96. Over which of the following intervals does  $f'(x)$  equal zero?  
 I.  $(-6, -3)$     II.  $(-3, -1)$     III.  $(2, 5)$   
 (A) I only     (B) II only     (C) I and II only  
 (D) I and III only     (E) II and III only
97. How many points of discontinuity does  $f'(x)$  have on the interval  $-6 < x < 7$ ?  
 (A) none     (B) 2     (C) 3     (D) 4     (E) 5
98. For  $-6 < x < -3$ ,  $f'(x)$  equals  
 (A)  $-\frac{3}{2}$      (B)  $-1$      (C)  $1$      (D)  $\frac{3}{2}$      (E)  $2$
99. Which of the following statements about the graph of  $f'(x)$  is false?  
 (A) It consists of six horizontal segments.  
 (B) It has four jump discontinuities. *has 5*  
 (C)  $f'(x)$  is discontinuous at each  $x$  in the set  $\{-3, -1, 1, 2, 5\}$ .  
 (D)  $f'(x)$  ranges from  $-3$  to  $2$ .  
 (E) On the interval  $-1 < x < 1$ ,  $f'(x) = -3$ .

B

T  
F  
T  
T  
T